BinarySwipes: Fast List Search on Small Touchscreens

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Lists on tiny screens?

Music

Navigation

Contacts
MultiFi
Grubert et al.
CHI 2015
FAT FINGER PROBLEM

https://www.youtube.com/watch?v=bwkgVYQMkEw
Related Work

Text Entry
Dunlop et al.
CHI 2014 EA

Generalized Search
Chittaro and De Marco
Interact 2005

Character Pinning
Shani et al., CHI 2009

List Selection
Plaumann et al.
ISWC 2016
BinarySwipes

Where’s Michael?
Evaluation

Linear

Binary

Hybrid

BinarySwipes @ MuC’19 (8)
Results

Task Time

- **linear**
- **binary**
- **hybrid**

The diagram shows the task time in seconds for different tasks (100, 200, 500) across linear, binary, and hybrid methods.
Results

Nasa TLX
Thank you!
## Statistics

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Mental Demand</th>
<th>Physical Demand</th>
<th>Temporal Demand</th>
<th>Performance</th>
<th>Effort</th>
<th>Frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear &amp; Binary</td>
<td>&lt; 0.001</td>
<td>0.004</td>
<td>0.018</td>
<td>&lt; 0.001</td>
<td>&lt; 0.001</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Linear &amp; Hybrid</td>
<td>&lt; 0.001</td>
<td>0.002</td>
<td>0.058</td>
<td>&lt; 0.001</td>
<td>0.021</td>
<td>0.056</td>
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<tr>
<td>Binary &amp; Hybrid</td>
<td>0.003</td>
<td>0.190</td>
<td>0.720</td>
<td>0.040</td>
<td>&lt; 0.001</td>
<td>0.038</td>
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</tbody>
</table>